R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

RE: FOREIGN PRIORITY

It is respectfully requested that the Examiner check item 12 of the Office Action Summary sheet to acknowledge the claim for foreign priority made in the present application and to indicate that certified copies of the priority documents have been received.

RE: THE DRAWINGS

It is respectfully requested that the Examiner check item 10 of the Office Action Summary sheet to indicate that the drawings filed with the application papers have been accepted as formal drawings.

THE SPECIFICATION

It is noted that pages 1 and 2 of the specification are identical to each other (except the title which is provided only on page 1). Therefore, the paragraphs on page 1, lines 3-32 of the specification have been deleted.

In addition, the specification has been amended to add section headings and to correct some minor clerical errors of

which the undersigned has become aware. No new matter has been added, and it is respectfully requested that the amendments to the specification be approved and entered.

THE CLAIMS

Independent claims 1 and 6 have been amended to more clearly recite the distinguishing features of the present invention based on the disclosure throughout the specification and drawings.

In addition, claims 1-8 have been amended to make some minor grammatical improvements and to correct some minor antecedent basis problems so as to put them in better form for issuance in a U.S. patent.

Still further, new claim 9 has been added to recite that the energy producing device comprises a generator as originally recited in claim 1.

No new matter has been added, and it is respectfully requested that the amendments to the claims be approved and entered.

THE PRIOR ART REJECTION

Claims 1-8 were rejected under 35 USC 103 as being obvious in view of the combination of USP 6,185,956 (“Brasz”) and USP 3,097,490 (“Callan et al”), and claims 1-8 were also rejected under 35 USC 103 as being obvious in view of the combination of

Brasz and USP 3,994,137 (“Yasumoto et al”). These rejections, however, are respectfully traversed with respect to the claims as amended hereinabove.

According to the present invention as recited in amended independent claim 1, there is provided a method of controlling a closed heating system for generating energy from heat by managing a flow of a working medium through an expansion device included in the closed heating system. As recited in amended independent claim 1, in addition to the expansion device, the closed heating system also includes a condenser, a pump and a boiler, wherein the expansion device comprises a helical screw rotor expander that has an inlet port and an outlet port connected to an inlet of the condenser, and wherein the condenser comprises an outlet connected to an inlet of the pump, the pump comprises an outlet connected to an inlet of the boiler, and the boiler comprises an outlet connected to the inlet port of the helical screw rotor expander through an inlet line. Significantly, as recited in amended independent claim 1, the expansion device drives an energy producing device. And as recited in amended independent claim 1, the method comprises providing the helical screw rotor expander with an intermediate pressure port between the inlet port and the outlet port, by connecting the intermediate pressure port with the inlet line via a branch line between the intermediate pressure port and a branching point in the inlet

line. Still further, as recited in amended independent claim 1, a valve is included in the branch line, and the flow of the working medium through the valve to the intermediate pressure port is controlled as a function of a state parameter.

Similarly, according to the present invention as recited in amended independent claim 6, there is provided a closed heating system for generating energy from heat including an arrangement for controlling a flow of a working medium through an expansion device included in the closed heating system, wherein the closed heating system further includes a condenser, a pump, a boiler, and requisite connection lines. As recited in amended independent claim 6, the expansion device includes a helical screw rotor expander that has an inlet port and an outlet port connected to an inlet of the condenser, wherein the condenser comprises an outlet connected to an inlet of the pump, the pump comprises an outlet connected to an inlet of the boiler, and the boiler comprises an outlet connected to the inlet port of the helical screw rotor expander through an inlet line. Significantly, as recited in amended independent claim 6, the expansion device drives an energy producing device. And as recited in amended independent claim 6, the helical screw rotor expander includes an intermediate pressure port between the inlet port and the outlet port, wherein a branch line connects the intermediate pressure

port with the inlet line at a branching point, and a valve is provided in the branch line.

It is respectfully submitted that even if the Brasz, Callan et al, and Yasumoto et al were combinable in the manner suggested by the Examiner, any such combination would still not achieve or render obvious the above described structural features of the present invention as recited in amended independent claims 1 and 6.

In particular, it is respectfully submitted that Brasz discloses a cycle that is fundamentally of a different type than that of the claimed present invention. That is, contrary to the claimed present invention, Brasz merely discloses a refrigerator cycle. Moreover, contrary to the claimed present invention, the expansion device of Brasz is not for driving an energy producing device. Still further, contrary to the claimed present invention, Brasz does not disclose a pump for pumping a liquid (that is, working medium) coming from a condenser, and Brasz does not disclose an expansion device for expanding a gaseous medium (that is, working medium) coming from a boiler (or evaporator).

It is also respectfully submitted that, contrary to the Examiner's assertion on pages 3 and 4 of the Office Action, the expansion device of Brasz does not include/have an intermediate pressure port and an outlet port. That is, it is respectfully submitted that the expressor 30 of Brasz (which, according to the

Examiner, corresponds to the expander of the claimed present invention) merely consists of two parts. A first expansion part in which liquid is expanded and caused to leave through a liquid outlet port 58, and a compression part where evaporated part is compressed to high pressure vapor. The expressor 30 of Brasz, however, does not have/include an intermediate pressure port, and it is respectfully submitted that Brasz does not disclose, teach or suggest connecting an intermediate pressure port to an inlet port as according to the claimed present invention.

Callan et al and Yasumoto et al, moreover, have been cited for the disclosure of the concept of "connecting the intermediate port with a branch line from an inlet port, said branch line having a valve being responsive to a state parameter." It is respectfully submitted, however, that neither Callan et al nor Yasumoto et al disclose the cycle as according to the claimed present invention, and that neither Callan et al nor Yasumoto et al disclose, teach or suggest that a helical screw rotor expander is applied in a power cycle, or that the expander has an intermediate pressure port connected to an inlet port thereof, as according to the claimed present invention.

In view of the foregoing, it is respectfully submitted that the present invention as recited in amended independent claims 1 and 6, and claims 2-5, and 7-9 respectively depending therefrom, clearly patentably distinguishes over all of the cited prior art

references of record, taken singly or in any combination, under 35 USC 103.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,

/Douglas Holtz/

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